

REMARKS

This responds to the Office Action mailed on September 7, 2005 and the Advisory Action mailed November 22, 2005.

Claims 1, 9, 13, 17, 22, 30 and 36 are amended, no claims are canceled, and no claims are added; as a result, claims 1-39 are now pending in this application.

§103 Rejection of the Claims

Claims 1-24, 26-33, and 36-39 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Hochberg et al. (U.S. 4,981,724) in view of Ishitani (U.S. 5,330,936). Applicant respectfully traverses this rejection.

Hochberg discloses CVD reactions using either $\text{SiH}_4 + \text{O}_2$, or $4\text{PH}_3 + 5\text{O}_2$, or $\text{SiH}_4 + 2\text{N}_2\text{O}$, or $\text{SiH}_2\text{CL}_2 + 2\text{N}_2\text{O}$ (see col. 11 line 14 to col. 12, line 22). Applicant submits that there is no suggestion in the cited reference of having the chlorine containing component separate from the silicon containing component as recited in the present invention.

Ishitani discloses selectively deposited silicon nitride film using CVD with ammonia and either silane or dichlorosilane with hydrogen chloride gas (see col. 2, lines 50-57). The Final Office Action uses the Ishtani reference to show that it is known to deposit oxide on the inner surface of a trench, that it is known to add hydrogen chloride gas to ammonia or silane, and that it is known to allow a native oxide to form prior to depositing a dielectric layer.

Specifically, Applicant respectfully submits that the suggested combination of reference fails to describe or suggest at least the claimed features of “*...passing reaction gasses over the substrate to deposit the dielectric film forming a blanket dielectric deposition over substantially the entirety of at least one surface of the substrate, wherein the reaction gasses include a silicon bearing component, the oxidizing component, and a chloride component, and wherein the silicon bearing component and the chloride component are included within distinct ones of the reaction gasses introduced into the chamber...*”, as found in independent claims 1, 9, 13, 17 and 22, as amended herein. The exact claim wording varies slightly from claim to claim. The cited combination of references does not suggest the use of a distinct chloride source to improve the uniformity of chlorine distribution throughout the furnace tube in a blanket deposition of a

dielectric layer. Applicant submits that there is no motivation to combine a selective deposition reference with a blanket deposition reference. In combining prior art references to construct a *prima facie* case, the Examiner must show some objective teaching in the prior art or some knowledge generally available to one of ordinary skill in the art that would lead an individual to combine the relevant teaching of the references, as discussed in the case of *In re Fine*, 837 F.2d 1071, 1074, 5 U.S.P.Q.2d (BNA) 1596, 1598 (Fed. Cir. 1988). The M.P.E.P. contains explicit direction to the Examiner that agrees with the *In re Fine* court at least at M.P.E.P. § 2143.

Applicant respectfully submits that the suggested combination of reference fails to describe or suggest at least the claimed features of “*...depositing a blanket dielectric layer over substantially the entirety of the substrate by passing reaction gasses over the substrate, wherein the reaction gasses include a silicon bearing component, an oxidizing component, and a chloride component, and wherein the silicon bearing component and the chloride component are included within distinct ones of the reaction gasses introduced into the chamber...*” as found in claim 30, as amended herein. The suggested combination of references does not contain motivation to make the suggested combination without the prohibited used of hindsight using the present application.

Applicant respectfully submits that the suggested combination of reference fails to describe or suggest at least the claimed features of “*...thermally oxidizing at least all non-insulator portions of the surface of the silicon substrate, in the furnace tube, using gaseous reactants, which include a chloride component, dichlorosilane, and nitrous oxide, wherein the chloride component and the dichlorosilane are included in distinct gasses introduced into the furnace deposition tube ...*”, as found in claim 36, as amended herein. The argument is similar to that given above with reference to the previous rejections.

The dependent claims are believed to be in patentable condition at least as depending from base claims shown above to be patentable over the combination of references. In view of the claim amendment contained herein, Applicant respectfully requests that this rejection be reconsidered and removed.

Claim 25 was rejected under 35 U.S.C. § 103(a) as being unpatentable over Hochberg et al. in view of Ishitani as applied to claim 22 above, and further in view of Chung et al. (U.S. 6,838,125). Applicant respectfully traverses this rejection.

Chung discloses a film deposited using a tantalum precursor component (col. 8, lines 1-7) and is used in the final Office Action to show that tantalum precursors are known to be used in depositiong tantalum containing films.

Claim 25 depends from independent claim 22. Applicant respectfully submits that the Chung reference does nothing to cure the above noted failure of Hochberg and Ishitani to provide motivation to have separate silicon and chlorine containing gas components containing chloride and the precursor material, as found in claim 22. Specifically, the suggested combination does not describe or suggest “*...forming a blanket dielectric deposition over substantially the entirety of at least one surface of the substrate, wherein the reaction gasses include a precursor component, the oxidizing component, an ammonia component, and a chloride component, and wherein the precursor component and the chloride component are included within distinct ones of the reaction gasses introduced into the chamber ...*”, as found in claim 22. Claim 25 directly depends upon claim 22 and is patentable at least as depending upon a patentable base claim..

In view of the above discussion with reference to claim 22, Applicant respectfully requests that this rejection of claim 25 be reconsidered and withdrawn.

Allowable Subject Matter

Claims 34 and 35 were allowed.

CONCLUSION

Applicant respectfully submits that the claims are in condition for allowance and notification to that effect is earnestly requested. The Examiner is invited to telephone Applicant's attorney David Suhl at (508) 865-8211, or the undersigned at (612) 373-6951 to facilitate prosecution of this application.

If necessary, please charge any additional fees or credit overpayment to Deposit Account No. 19-0743.

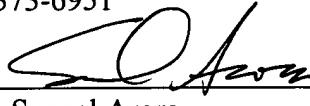
Respectfully submitted,

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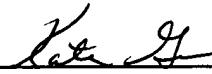
Date December 6, 2005

By 

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